



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,933	11/03/2003	Christopher J. Wright	06975-074002 / Security 0	5055
26171 7590 03/25/2008 FISH & RICHARDSON P.C. P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022				
EXAMINER				
SHINGLES, KRISTIE D				
ART UNIT		PAPER NUMBER		
2141				
MAIL DATE		DELIVERY MODE		
03/25/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/698,933

Applicant(s)

WRIGHT ET AL.

Examiner

KRISTIE D. SHINGLES

Art Unit

2141

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 January 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-6, 17, 18, 24-28, 35 and 37-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4-6, 17-18, 24-28, 35 and 37-49 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendments

Claims 1-3, 7-16, 19-23, 27-34 and 36 have been cancelled.
Claims 4, 17, 24 and 35 have been amended.
Claims 37-49 have been newly added.

Claims 4-6, 17, 18, 24-26, 35 and 37-49 are pending examination.

Response to Arguments

I. Applicant's arguments filed 1/9/2008 have been considered but are not persuasive.

- A. **Regarding claims 4, 17 and 24:** Applicant argues that the cited prior art of record, *Kumar et al* (US 6,757,836) in view of *Davis* (US 5,877,724) fail to teach “detecting partially-completed connection transactions that occur when an access requestor initiates a connection transaction and the access requestor subsequently fails to send a reply”.

Examiner respectfully disagrees. As stated in the previous rejection of independent claim 1, *Kumar et al* in view of *Davis* teach monitoring communications with at least one access provider for a partially-completed connection transaction (*Kumar et al*: Abstract, col.5 lines 27-29, col.6 lines 10-26 and 44-54—detecting partial connectivity); and terminating the partially-completed connection transaction (*Kumar et al*: Figures 3, 4a and 4b, col.3 lines 18-24 and 35-43), wherein *Davis* teaches terminating partial connections that have exceeded a period of time (col.11 lines 17-25, col.12 lines 19-29). *Kumar et al* further teach monitoring process details detecting disconnections in the computing system that cause a loss of full connectivity (*Abstract*), wherein the loss of full connectivity is due to the non-responsiveness of the access requestor node or failed communication channels (col.2 lines 7-40 and 63-66, col.3 lines 44-55). Further more *Kumar et al* teach that connectivity monitoring managers monitor

their respective nodes, such that when a node does not receive a responsive message from another node, the node concludes that there is a disconnect and therefore a loss of full connectivity (*col.6 lines 14-62, col.8 line 63-col.9 line 56*). Applicant's arguments are therefore unpersuasive and the rejection is maintained.

- B. Regarding claim 5: Applicant argues that the cited prior art of record, *Kumar et al* (US 6,757,836) in view of *Davis* (US 5,877,724) fail to “detect transactions that occur when an access requestor initiates a connection transaction based on a return address that differs from an actual return address”.**

Examiner respectfully disagrees. *Kumar et al* specifically teach that in the connection monitoring system, when a node does not receive a responsive message from another node, then the non-responsive node is shut down to regain full connectivity (*col.6 lines 20-62, col.8 line 63-col.10 line 7*). The system of *Kumar et al* obviously provisions that a node expecting a response from a second node will determine if it has received a response by checking the addresses of the responses/messages received, such that, when no response/message is received addressed from the second node then the awaiting node determines that the second node is non-responsive. Thus it is obvious that the system's connectivity is determined based on return addresses, since nodes in a network are identified by their addresses, and if a particular node is non-responsive it is deemed non-responsive due to a lack of communication from its associated address. Applicant's arguments are therefore unpersuasive and the rejection is maintained.

Claim Rejections - 35 USC § 103

II. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

III. Claims 4-6, 17, 18, 24-26 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kumar et al (US 6,757,836) in view of Davis (US 5,877,724).

a. **Per claim 4**, *Kumar et al* teach a method for securing an access provider, the method comprising:

- monitoring communications with at least one access provider for a partially-completed connection transaction (*Abstract, col.5 lines 27-29, col.6 lines 10-26 and 44-54—detecting partial connectivity*); and
- terminating the partially-completed connection transaction (*Figures 3, 4a and 4b, col.3 lines 18-24 and 35-43*),
- wherein the monitoring comprises detecting partially-completed connection transactions (*Abstract, col.5 lines 27-29, col.6 lines 10-26 and 44-54*) that occur when an access requestor initiates a connection transaction and the access requestor subsequently fails to send a reply (*Figures 3, 4a and 4b, col.3 lines 18-24 and 35-43, col.8 line 40-col.9 line 39*).

Although *Kumar et al* teach terminating partial connectivity transactions, *Kumar et al* fail to explicitly teach terminating the partially-complete connection transaction when the partially-completed connection transaction remains in existence for a period of time that exceed a threshold period of time. However, *Davis* teaches terminating partial connections that have exceeded a period of time (*col.11 lines 17-25, col.12 lines 19-29*).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of *Kumar et al* with *Davis* for the purpose of

modifying the partial connectivity detection to further detect the amount of time the partial connectivity status has persisted and terminating the partial connection after a specific threshold in order to conserve the system's resources for other connections by releasing partial connections that waste the system's connectivity resources and diminishes the system's capabilities to connect to other devices.

b. **Claims 17 and 24** contain limitations that are substantially equivalent to claim 4 and are therefore rejected under the same basis.

c. **Per claim 35**, *Kumar et al* teach a system for securing an access provider, the system comprising:

- monitoring component that is structure and arranged to monitor communications with at least one access provider for a partially-completed connection transaction (*Abstract, col.5 lines 27-29, col.6 lines 10-26 and 44-54—detecting partial connectivity*); and
- a terminating component that is structured and arranged to terminate the partially-completed connection transaction (*Figures 3, 4a and 4b, col.3 lines 18-24 and 35-43*),
- wherein the monitoring component and the terminating component are included in a switch that receives communications from a host computer system (*col.5 lines 27-29, col.6 lines 20-31*).

Although *Kumar et al* teach terminating partial connectivity transactions, *Kumar et al* fail to explicitly teach terminating the partially-complete connection transaction when the partially-completed connection transaction remains in existence for a period of time that exceed a threshold period of time. However, *Davis* teaches terminating partial connections that have exceeded a period of time (*col.11 lines 17-25, col.12 lines 19-29*).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of *Kumar et al* with *Davis* for the purpose of

modifying the partial connectivity detection to further detect the amount of time the partial connectivity status has persisted and terminating the partial connection after a specific threshold in order to conserve the system's resources for other connections by releasing partial connections that waste the system's connectivity resources and diminishes the system's capabilities to connect to other devices.

d. **Per claim 5, Kumar et al** teach the method as in claim 4, wherein the monitoring comprises detecting partially-completed connection transactions (*Abstract, col.5 lines 27-29, col.6 lines 10-26 and 44-54*) that occur when an access requestor initiates a connection transaction based on a return address that differs from an actual return address of the access requestor (*Figures 3, 4a and 4b, col.3 lines 18-24 and 35-43*).

e. **Claims 18 and 25** are substantially equivalent to claim 5 and are therefore rejected under the same basis.

f. **Per claim 6, Kumar et al** teach the method as in claim 6, wherein the monitoring comprises detecting partially-completed connection transactions wherein the return address is an Internet protocol address that differs from the actual return address of the access requestor (*Abstract, col.3 lines 18-24 and 35-43, col.5 lines 27-29, col.6 lines 10-26 and 44-54*).

g. **Claim 26** is substantially equivalent to claim 6 and is therefore rejected under the same basis.

IV. Claims 37-41, 43, 44 and 47-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murata et al (US 6,314,464) in view of Morita et al (US 6,310,859).

h. **Per claim 37, *Murata et al* teach a method for monitoring connections with an access provider, the method providing:**

- receiving, at an access provider, a request, from an access requestor, to establish a connection with the access provider (*col.1 lines 25-32 and 42-53, col.3 lines 54-57*);
- in response to receiving the request, sending, by the access provider to the access requestor, an acknowledgement message (*col.1 lines 33-34, col.3 lines 57-59, col.6 lines 30-38 and 55-63*);
- dedicating, by the access provider, connectivity resources to establishing a connection with the access requestor (*col.1 lines 35-42 and 58-61, col.3 lines 57-64*); and
- waiting for a response, from the access requestor, to the acknowledgement message to establish a connection with the access requestor using the connectivity resources dedicated to establishing a connection with the access requestor (*col.1 lines 35-42, col.3 lines 14-32, col.4 lines 1-13, col.10 lines 42-46*).

Nevertheless *Murata et al* fail to teach measuring a time period based on an amount of time the access provider has been waiting for the response from the access requestor; comparing the measured time period to a threshold time period; based on comparison results, determining whether the measured time period exceeds the threshold time period; and in response to determining that the measured time period exceeds the threshold time period, making the connectivity resources dedicated to establishing a connection with the access requestor available for use in establishing a connection with another access requestor. *Morita et al* teach measuring a response time period (the packet unexchanged time period) in comparison with a reference time period for a user confirm the established connection acknowledgement, wherein the communication is halted, terminated or put on hold based on response time (*col.2 lines 31-65, col.7 lines 36-46, col.8 lines 43-50, col.9 lines 15-25, col.11 lines 19-27 and 40-67, col.12 lines 7-52, col.13 lines 27-50, col.21 lines 20-49*).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of *Murata et al* with *Morita et al* for the purpose of establishing a user-requested connection based on the user's response time to the reserved connection resources; it is an obvious and well-known technique to release idle connection resources that are not being used by the user in order to prevent wasting the system's resources.

i. **Per claim 38**, *Murata et al* with *Morita et al* teach the method of claim 37 wherein: *Murata et al* further teach dedicating, by the access provider, connectivity resources to establishing a connection with the access requestor comprises opening a communication port for establishing a connection with the access requestor; and making the connectivity resources dedicated to establishing a connection with the access requestor available for use in establishing a connection with another access requestor comprises resetting the communication port (*col.3-25*; *Morita et al—col.6 line 18-36*).

j. **Per claim 39**, *Murata et al* with *Morita et al* teach the method of claim 37 wherein: *Morita et al* further teach measuring the time period based on the amount of time the access provider has been waiting for the response from the access requestor comprises measuring a time period starting from receipt of the request, from the access requestor, to establish a connection with the access provider (*col.2 lines 31-65*, *col.11 line 49-col.12 line 52*, *col.21 lines 20-49*).

k. **Per claim 40**, *Murata et al* with *Morita et al* teach the method of claim 37, *Morita et al* further teach wherein measuring the time period based on the amount of time the access provider has been waiting for the response from the access requestor comprises measuring

a time period starting from sending, by the access provider to the access requestor, the acknowledgement message (*col.8 lines 37-50, col.11 line 49-col.12 line 52, col.21 lines 20-49*).

l. **Per claim 41, Murata et al** with *Morita et al* teach the method of claim 37, *Morita et al* further teach wherein measuring the time period based on the amount of time the access provider has been waiting for the response from the access requestor comprises measuring a time period starting from dedicating, by the access provider, connectivity resources to establishing a connection with the access requestor (*col.8 lines 37-50, col.11 line 49-col.12 line 52, col.21 lines 20-49*).

m. **Per claim 43, Murata et al** with *Morita et al* teach the method of claim 37, *Morita et al* further teach the method further comprising changing the threshold time period for subsequent comparisons (*col.2 lines 44-60*).

n. **Per claim 44, Murata et al** with *Morita et al* teach the method of claim 37, *Morita et al* further teach the method further comprising establishing a connection with another access requestor using the connectivity resources dedicated to establishing a connection with the access requestor, establishing the connection occurring subsequent to dedicating the connectivity resources and prior to establishing a connection with the access requestor (*col.2 lines 23-26, col.24 lines 3-45*).

o. **Per claim 47, Murata et al** with *Morita et al* teach the method of claim 37, *Morita et al* further teach the method further comprising: in response to determining that the measured time period exceeds the threshold time period, stopping waiting for the response, from the access requestor, to the acknowledgement message (*col.8 lines 37-50, col.11 line 49-col.12 line 52, col.21 lines 20-49*).

p. **Per claim 48**, *Murata et al* with *Morita et al* teach the method of claim 37, *Morita et al* further teach the method wherein the measuring, comparing, and determining are performed by the access provider (*col.7 line 36-col.8 line 14, col.11 lines 19-27, col.12 lines 30-34*).

q. **Per claim 49**, *Murata et al* with *Morita et al* teach the method of claim 37, *Morita et al* further teach the method wherein the measuring, comparing, and determining are performed by a switch connected to the access provider (*col.4 lines 30-65, col.5 lines 19-24, col.7 line 36-col.8 line 14, col.11 lines 19-27, col.12 lines 30-34, col.17 lines 1-67, col.21 lines 20-49, col.22 lines 44-55*).

V. **Claims 42, 45 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Murata et al* (US 6,314,464) and *Morita et al* (US 6,310,859) in further view of *Juels et al* (US 7,197,639).**

r. **Per claim 42**, *Murata et al* with *Morita et al* teach the method of claim 37 as applied above, yet fail to explicitly teach the method wherein: receiving, at the access provider, the request, from the access requestor, to establish a connection with the access provider comprises receiving, at the access provider, a SYN request, from the access requestor, to establish a TCP connection with the access provider; sending, by the access provider to the access requestor, the acknowledgement message comprises sending, by the access provider to the access requestor, a SYN acknowledgement; dedicating, by the access provider, connectivity resources to establishing a connection with the access requestor comprises opening a communication port for establishing a TCP connection with the access requestor; waiting for the response, from the access requestor, to the acknowledgement message to establish a connection

with the access requestor using the connectivity resources dedicated to establishing a connection with the access requestor comprises waiting for a reply acknowledgement from the access requestor; and making the connectivity resources dedicated to establishing a connection with the access requestor available for use in establishing a connection with another access requestor comprises resetting the communication port such that the communication port becomes available for use in response to a new SYN request received from another access requestor.

However *Juels et al* clearly teach receiving a SYN request from a user to establish a TCP connection (*col.1 lines 55-56, col.3 lines 22-23 and 47-49, col.4 lines 21-23 and 55-57, col.8 lines 27-34*); allocating TCP connection resources accordingly to satisfy the request and establish the connection (*col.1 lines 56-61*); sending a SYN acknowledgment message and preparing a port resource for connection establishment (*col.1 lines 56-61, col.8 lines 40-61*); waiting for a response from the user (*col.1 lines 56-61, col.8 lines 33-39*); and if the no response is received from the user before time expires then releasing the resources to reallocate to another user (*col.1 line 10-col.2 line 38, col.8 lines 55-63*). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of *Murata et al* and *Morita et al* with *Juels et al* for the purpose of provisioning TCP SYN connection messaging as a part of the connection-establishing system, since TCP SYN communication is a well-known practice in the art for maintaining the synchronous timing of requests and replies in the between a sender and receiver via the use of acknowledgment messages.

s. **Per claim 45**, *Murata et al* with *Morita et al* teach the method of claim 37 wherein in response to determining that the measured time period exceeds the threshold time period (*col.21 lines 20-49*), storing information related to the access requestor (*col.7 line 65-*

col.8 line 5, col.10 lines 46-53, col.11 lines 58-64); yet fail to explicitly teach blocking future requests from the access requestor to establish a connection with the access provider based on the stored information. However *Juels et al* teach rejecting a user request when the predetermined time period has been exceeded, which would obviously prevent the user establishing a connection (*col.6 lines 31-38*). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of *Murata et al* and *Morita et al* with *Juels et al* for the blocking users from gaining access to connection resources when if the users are known to waste the resources reserved for their request; blocking these users will maintain and insure that necessary resources are available to legitimate users.

t. **Per claim 46**, *Murata et al* and *Morita et al* with *Juels et al* teach the method of claim 45, *Juels et al* further teach the method wherein: storing information related to the access requestor comprises storing an IP address used by the access requestor; and blocking future requests from the access requestor to establish a connection with the access provider based on the stored information comprises blocking future requests received from an IP address corresponding to the stored IP address (*col.11 line 61-col.12 line 3, col.17 lines 25-35, col.21 lines 42-46*).

Conclusion

VI. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure: Larsson et al (6643262), Denker (5958053), Roy (6049774).

VII. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

VIII. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kristie Shingles whose telephone number is 571-272-3888. The examiner can normally be reached on Monday-Friday 8:30-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on 571-272-3880. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kristie D. Shingles
Examiner
Art Unit 2141

kds

/William C. Vaughn, Jr./

Supervisory Patent Examiner, Art Unit 2144